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JUN 23 2006

Our ref: KON-1822

Client's ref: P6220-001-0000

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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In re Application of: S. NAKAJIMA et al : Art Unit: 1752

Serial No. : 10/658,253 :  
Examiner: T. Chea

Filed : September 9, 2003 :

Title : SILVER SALT PHOTOTHERMO- : Dated: June 23, 2006  
GRAPHIC DRY IMAGING  
MATERIAL :

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DECLARATION

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

S i r:

I, Akihisa Nakajima, hereby declare and say as follows:

1. I presented the Declarations dated August 17, 2005 (August 2005 Declaration) and December 16, 2005 (December 2005 Declaration) in this application.
2. I am aware that the Examiner is continuing to reject this application based on Sampei (US 6,190,854) and criticized the

December 2005 Declaration because only one binder was used. Tests have been performed and are reported herein to demonstrate the superiority of the claimed photothermographic material having a copolymer of Formula (1) produced by a pearl polymerization method compared to the teachings of Sampei, and to demonstrate the use of another binder, namely, cellulose acetate butyrate. These tests were performed by myself or under my direct supervision and control.

3. Photothermographic material Sample N1 was prepared in the same manner as Sample 1 appearing in Table 2 on page 77 of the application and as described beginning on page 52 except that the cellulose acetate propionate was replaced by an equal amount of cellulose acetate butyrate to prepare the back coating layer. Sample N1 contained copolymer PA-1 produced by the pearl polymerization method described on page 52 of the application. Copolymer PA-1 was the same as used in the December 2005 Declaration.
4. Photothermographic material Samples N2-N6 were prepared in the same manner as Sample N1, except that copolymer PA-1 was respectively replaced by copolymers PA-18, PA-19, PA-20, PA-21 and PA-22 as shown in attached Table A. Copolymers PA-18, PA-19, PA-20, PA-21 and PA-22 are the same as disclosed in the December 2005 Declaration. Attached Table A also

contains the data from the December 2005 Declaration for purposes of comparison.

5. The coating characteristics of the back coat layer of Samples N1-N6 were evaluated as described beginning on page 73 of this application. Transportability of Samples N1-N6 was evaluated as described beginning on page 76 of this application. The transportability evaluation criteria were:

- 0: no transportation trouble for 100 sheets
- 1: 1-9 sheets out of 100 sheets showed transportation trouble
- 2: 10-19 sheets out of 100 sheets showed transportation trouble
- 3: not less than 20 sheets showed transportation trouble

The evaluation results are shown in the attached Table A.

6. As shown in attached Table A, Samples N1-N6 have a copolymer of Formula (1) produced by the pearl polymerization method with 2-9 fluorine atoms in the "O-(R<sup>2</sup>)-(CF<sub>2</sub>)<sub>n</sub>X" portion. Samples N1-N6 therefore fall within the scope of the claimed invention.
7. Attached Table A demonstrates that Samples N1-N6 are superior to Samples 24-30 and are the same as Sample 1 and 19-23. Specifically, Samples N1-N6, 1 and 19-23 had no coating problems since the coated surface was completely flat (5 rating), while Samples 24-30 had obvious phase-separation or a

little phase separation (1-3 rating). Furthermore, Samples N1-N6, 1 and 19-23 had no transportation trouble for 100 sheets (0 rating), while Samples 24-30 had transportation trouble for 1-9, 10-19 or more than 20 sheets.

8. Since Sample N1-N6 performed in the same manner as Samples 1 and 19-23, the data supports the invention for different cellulose ester binders.
9. I believe that those skilled in the art would be surprised by the evaluation results shown in attached Table A. First, it is not obvious that the pearl polymerization method would be superior to the solution polymerization method when used to polymerize the copolymer of claimed Formula (1) (comparison between Samples N1-N6, 1, 19-23 and 24-28). Second, it is not obvious that the pearl polymerization method would produce a superior material when the copolymer has between 2-9 fluorine atoms in the "O-(R<sup>2</sup>)-(CF<sub>2</sub>)<sub>n</sub>X" portion of Formula (1) compared to less than 2 or more than 9 fluorine atoms in the "O-(R<sup>2</sup>)-(CF<sub>2</sub>)<sub>n</sub>X" portion of Formula (1) (comparison between Samples N1-N6, 1, 19-23 and 29-30).

It is declared by undersigned that all statements made herein of undersigned's own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false

statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the U.S. Code; and that such willful false statements may jeopardize the validity of this Application or any patent issuing thereon.

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Akihisa Nakajima

Dated:        This        day of        , 2006.

Attachment: Table A

TABLE A

Sample No.	Polymer used	Polymerization method	Number of F Atoms in the Monomer	Coating characteristics of the BC layer	Transportability	Remarks
1	PA-1	Pearl	4	5	0	Inv.
19	PA-18	Pearl	3	5	0	Inv.
20	PA-19	Pearl	9	5	0	Inv.
21	PA-20	Pearl	5	5	0	Inv.
22	PA-21	Pearl	8	5	0	Inv.
23	PA-22	Pearl	6	5	0	Inv.
24	FS-11	Solution	3	2	1	Comp.
25	FS-12	Solution	3	3	3	Comp.
26	FS-13	Solution	7	2	1	Comp.
27	FS-14	Solution	5	3	2	Comp.
28	FS-15	Solution	7	3	1	Comp.
29	PA-23	Pearl	0	1	2	Comp.
30	PA-24	Pearl	11	3	2	Comp.
N1	PA-1	Pearl	4	5	0	Inv.
N2	PA-18	Pearl	3	5	0	Inv.
N3	PA-19	Pearl	9	5	0	Inv.
N4	PA-20	Pearl	5	5	0	Inv.
N5	PA-21	Pearl	8	5	0	Inv.
N6	PA-22	Pearl	6	5	0	Inv.